

# KIC 004771201

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004771201-01	OBS	No	7.211358	138.336394	54.4	27.871	7.3	7.5	1.02	6028	0.92	230.78

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004771201-01	OBS	FP	0.00	1	0	0	0	LPP_DV

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

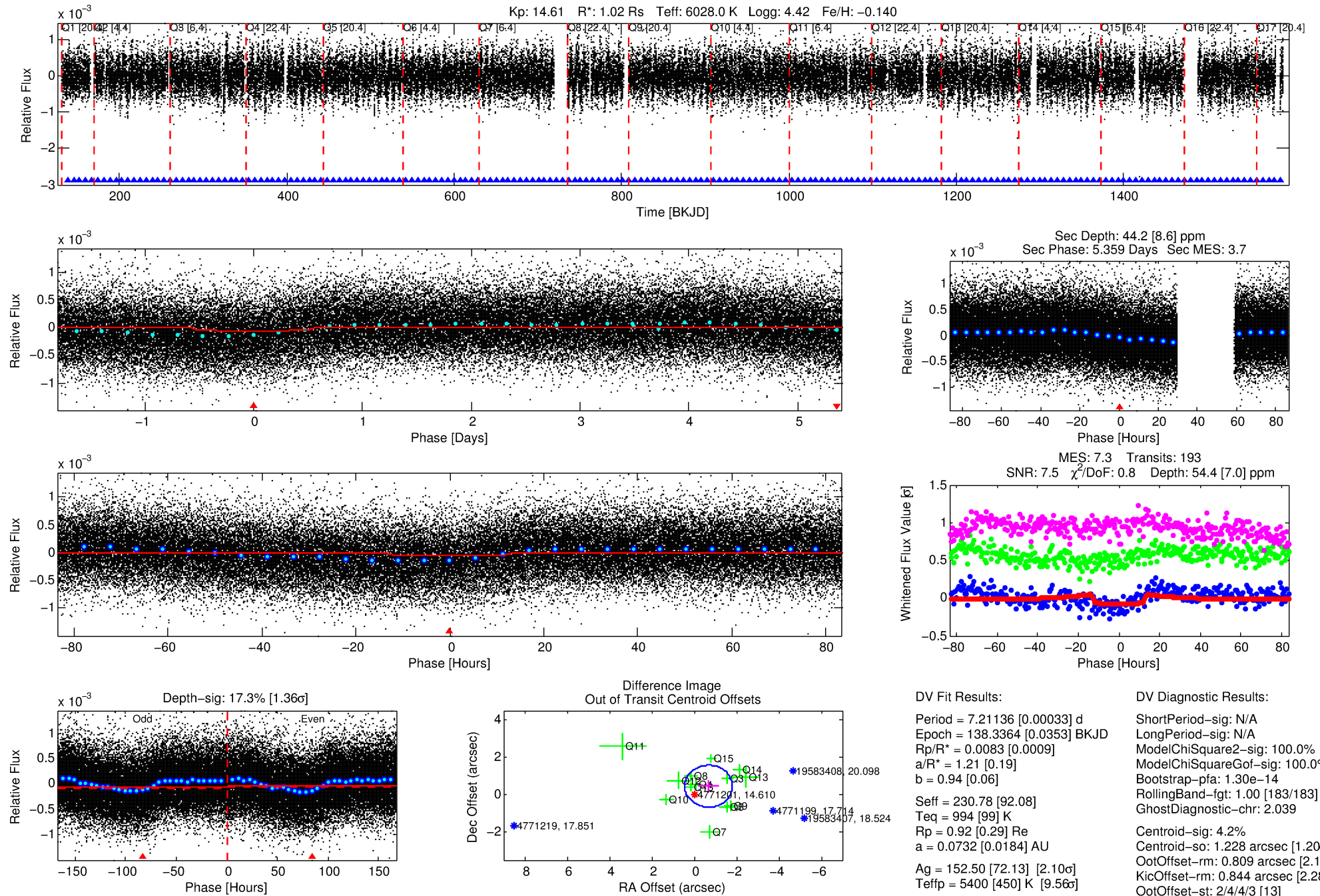
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004771201-01

No Significant Match Found

# DV One-Page Summary

KIC: 4771201 Candidate: 1 of 1 Period: 7.211 d



## DV Fit Results:

Period = 7.21136 [0.00033] d  
Epoch = 138.3364 [0.0353] BKJD  
Rp/R\* = 0.0083 [0.0009]  
a/R\* = 1.21 [0.19]  
b = 0.94 [0.06]  
Seff = 230.78 [92.08]  
Teff = 994 [99] K  
Rp = 0.92 [0.29] Re  
a = 0.0732 [0.0184] AU  
Ag = 152.50 [72.13] [2.10 $\sigma$ ]  
Teffp = 5400 [450] K [9.56 $\sigma$ ]

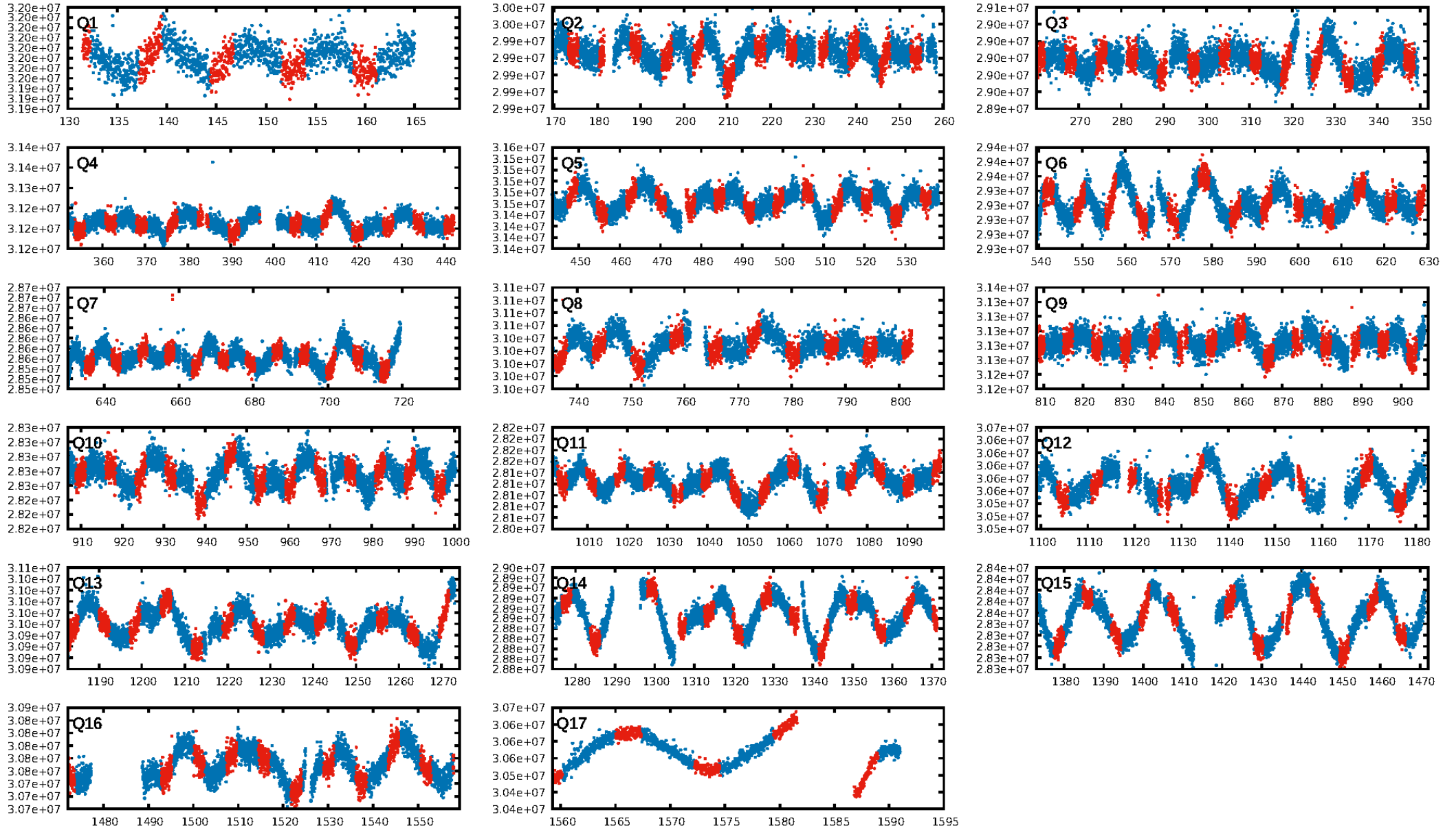
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 100.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.30e-14  
RollingBand-fgt: 1.00 [183/183]  
GhostDiagnostic-chr: 2.039  
Centroid-sig: 4.2%  
Centroid-so: 1.228 arcsec [1.20 $\sigma$ ]  
OotOffset-rm: 0.809 arcsec [2.16 $\sigma$ ]  
KicOffset-rm: 0.844 arcsec [2.28 $\sigma$ ]  
OotOffset-st: 2/4/4/3 [13]  
KicOffset-st: 2/4/4/3 [13]  
DiffImageQuality-fgm: 0.92 [12/13]  
DiffImageOverlap-fno: 1.00 [17/17]

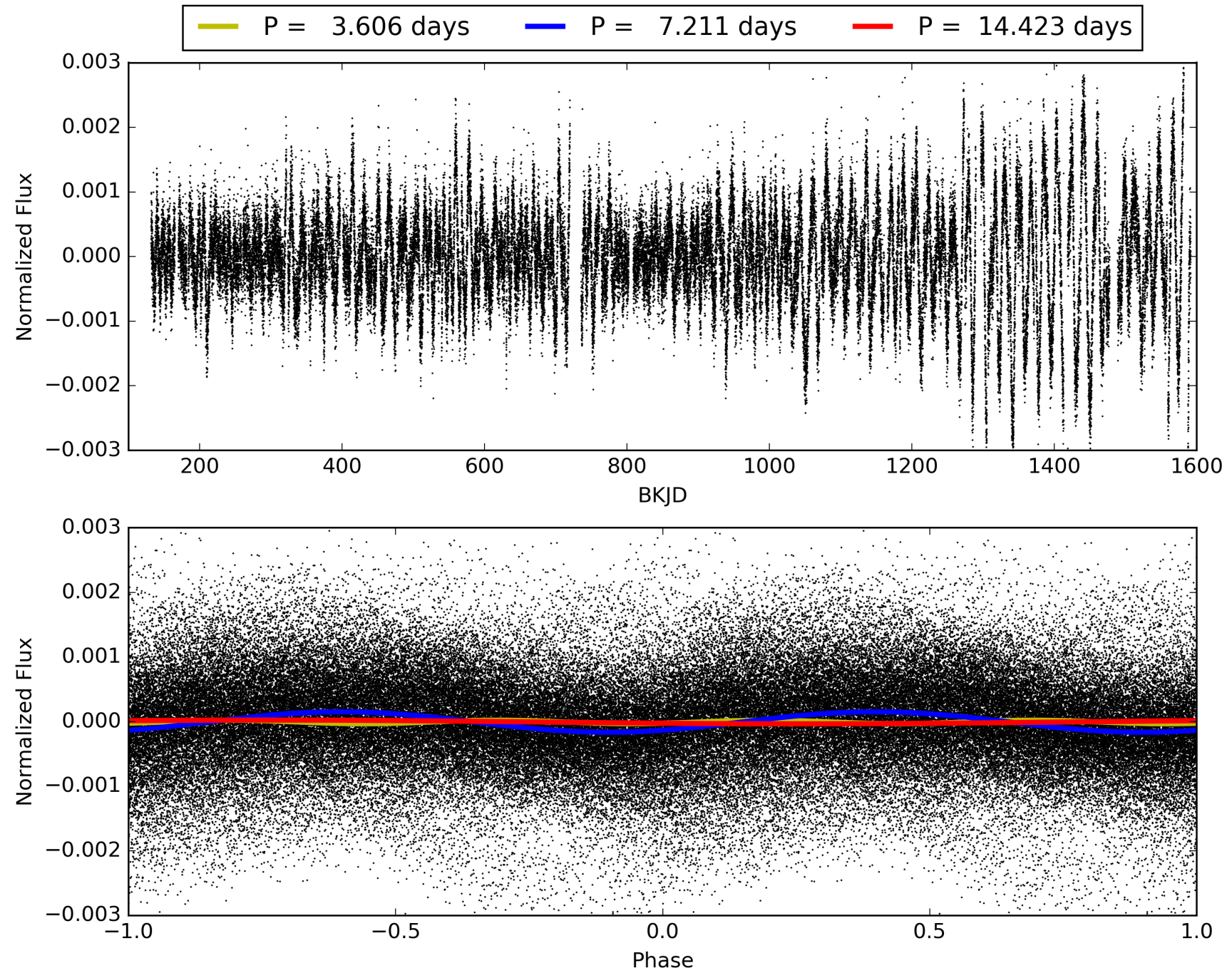
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:42:20 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 004771201-01, PDC Light Curves



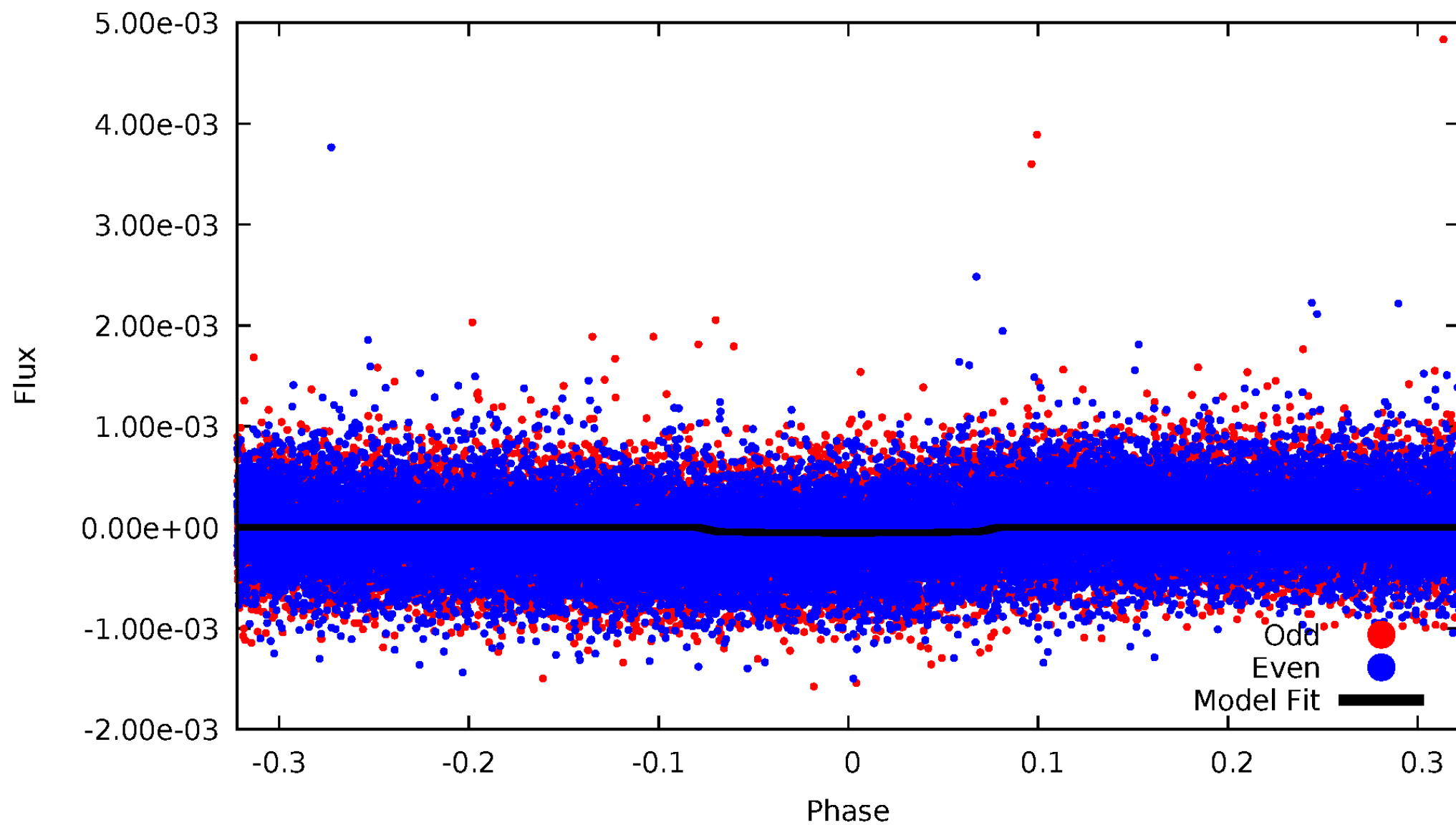
TCE 004771201-01





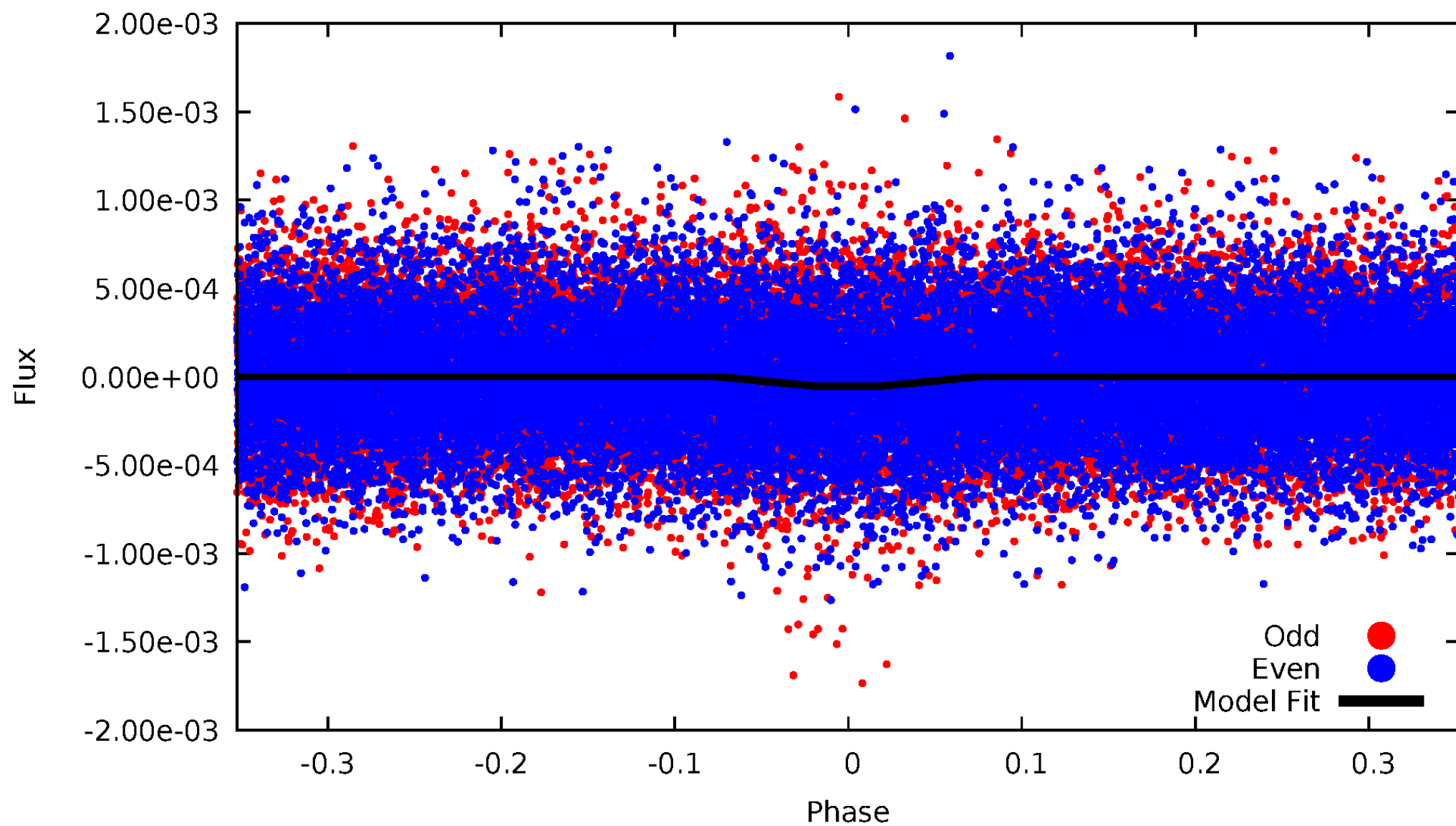
# DV Odd/Even

TCE 004771201-01



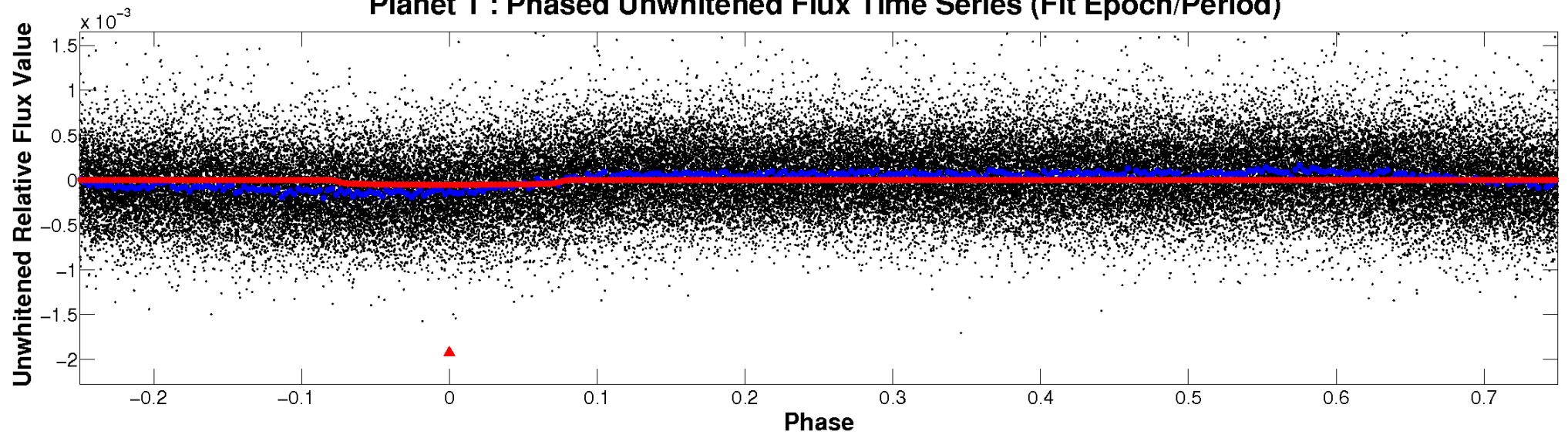
# ALT Odd/Even

TCE 004771201-01

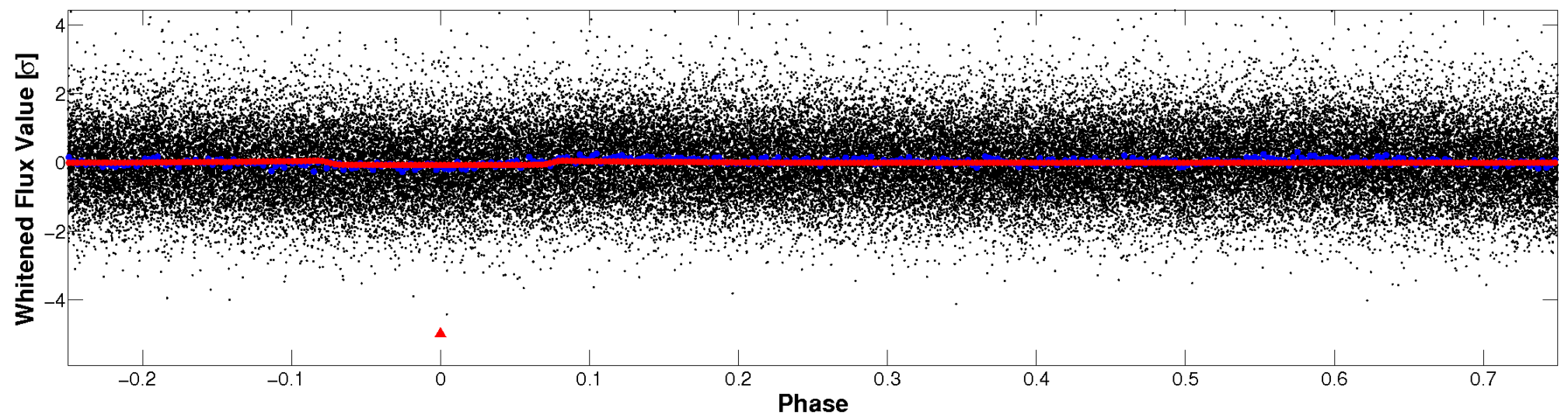


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

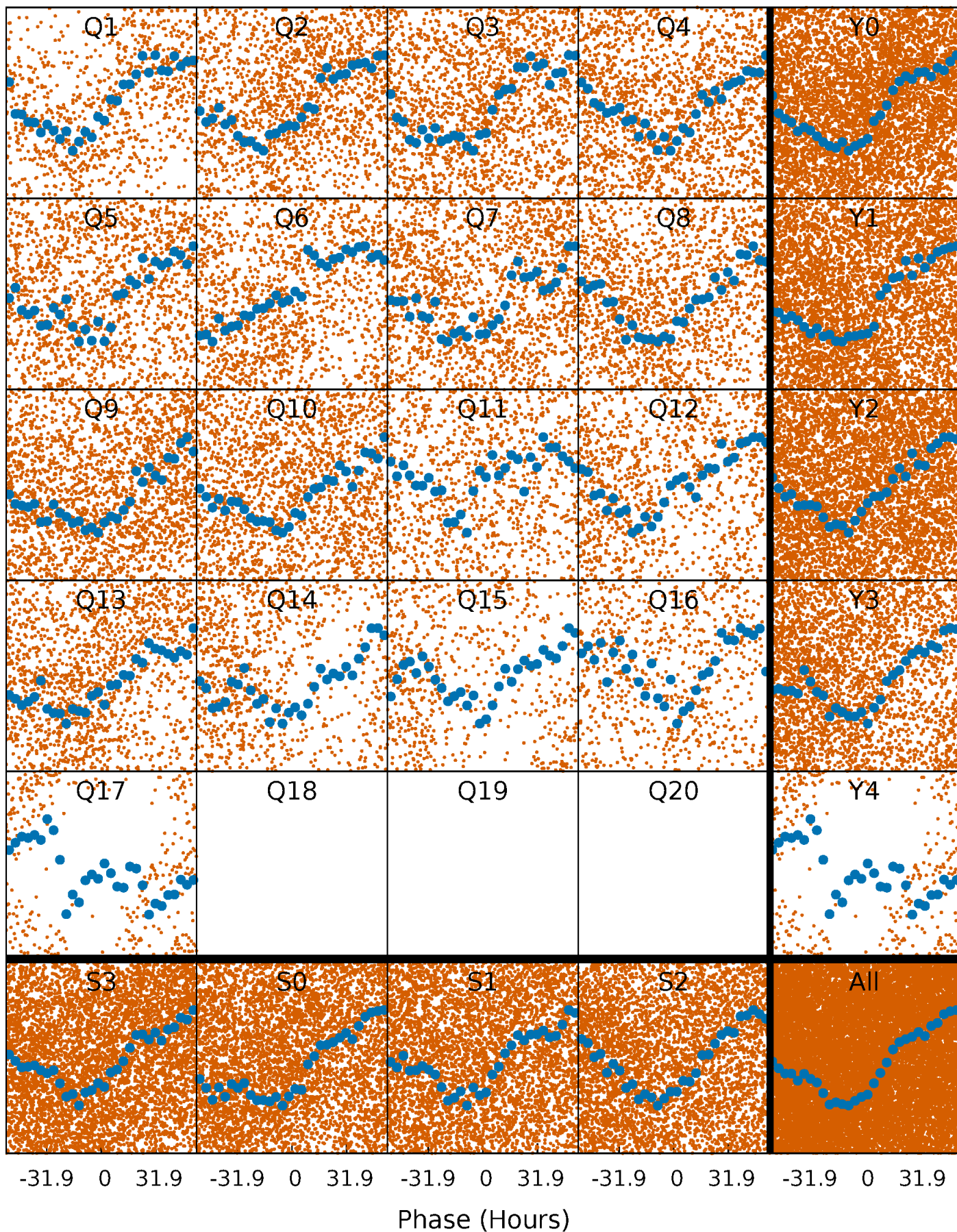


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

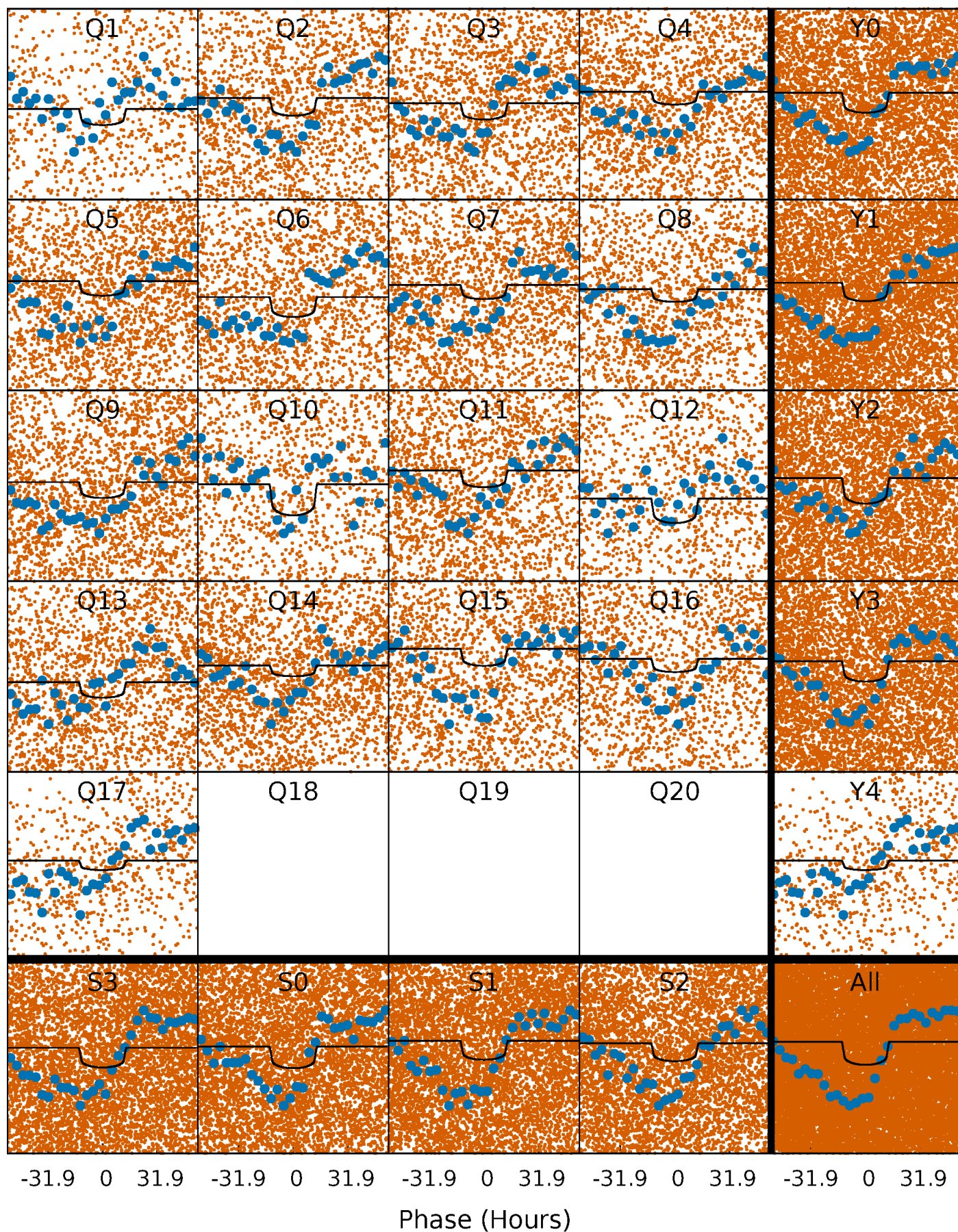
TCE 004771201-01 P= 7.211358 Days  $T_0=138.336394$  (BKJD)





# DV Quarter-Phased Transit Curves

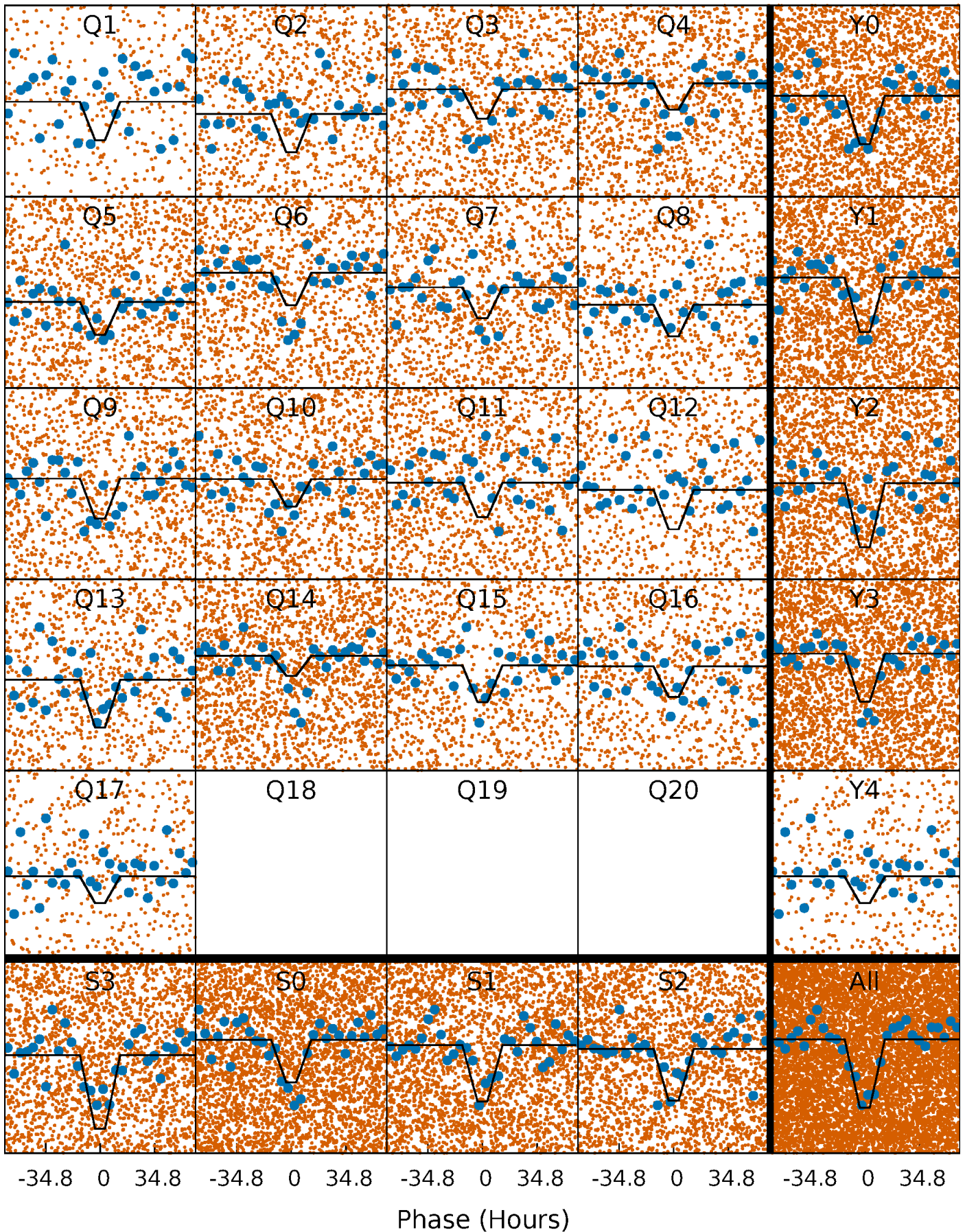
TCE 004771201-01 P= 7.211358 Days  $T_0=138.336394$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

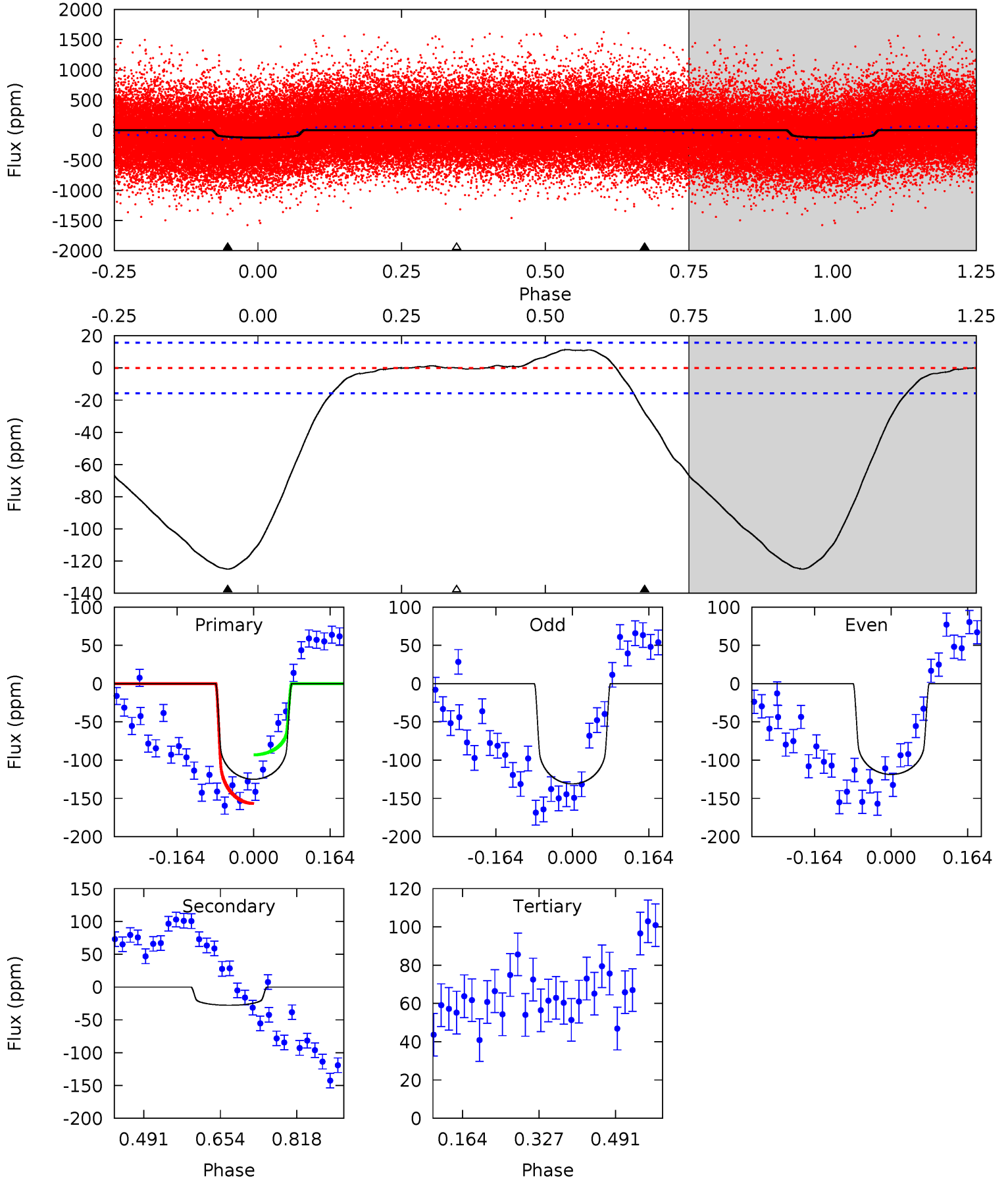
TCE 004771201-01 P= 7.212055 Days  $T_0=138.336891$  (BKJD)



# DV Model-Shift Uniqueness Test

004771201-01, P = 7.211358 Days, E = 131.125036 Days

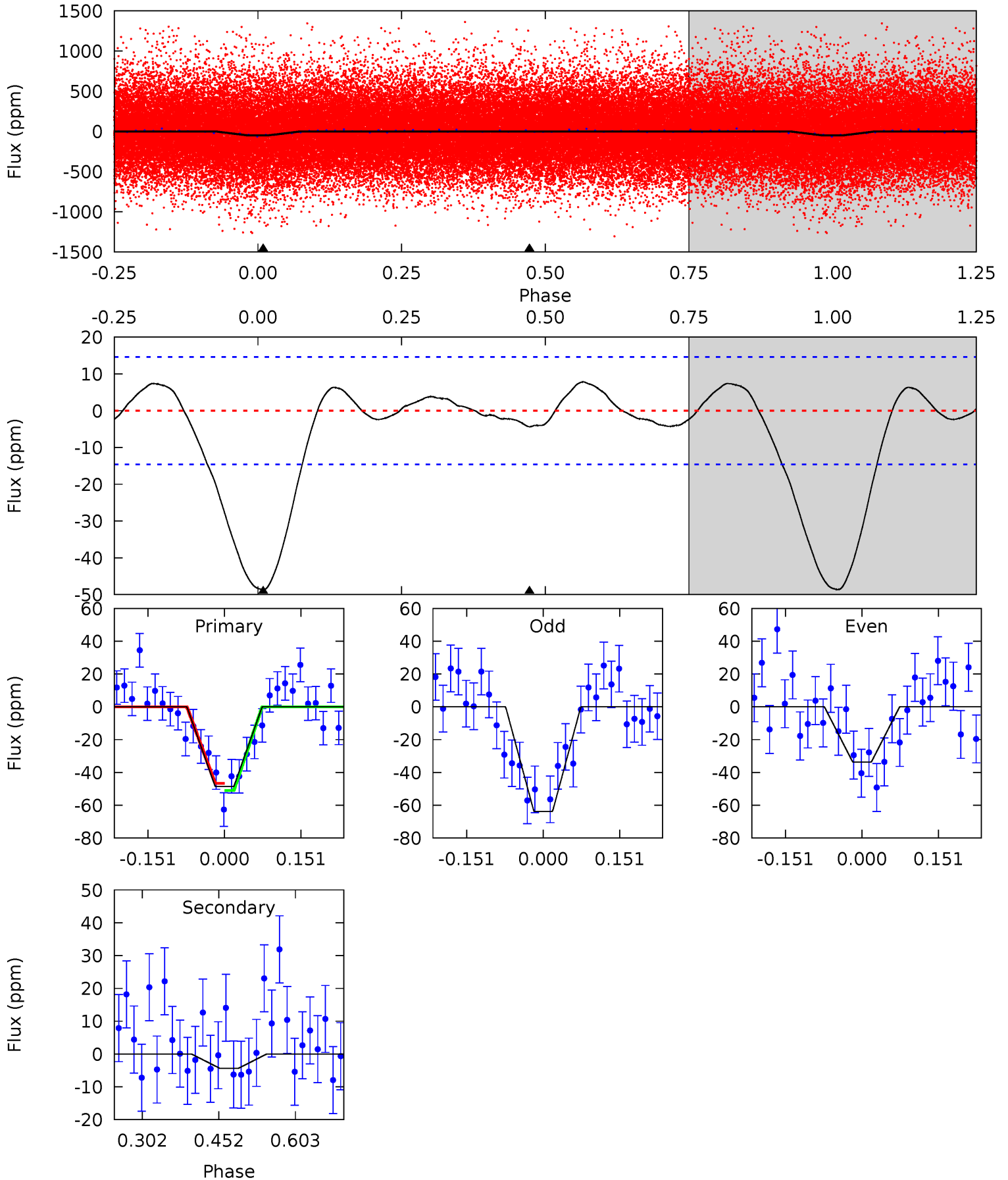
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.4	7.86	-0.01	0	4.46	1.39	1.56	35.4	35.4	7.87	7.86	1.75	0.95	0.08	9.09



# Alt Model-Shift Uniqueness Test

004771201-01, P = 7.212055 Days, E = 131.124836 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	1.34	0	0	4.48	1.44	1.06	14.9	14.9	1.34	1.34	4.64	0.92	0.14	0.66





### Stellar Parameters For KIC 004771201

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6028^{+188}_{-230}$	$4.421^{+0.087}_{-0.203}$	$-0.140^{+0.300}_{-0.300}$	$1.022^{+0.302}_{-0.139}$	$1.005^{+0.144}_{-0.131}$	$1.324^{+0.595}_{-0.694}$
	+3%/-4%	+2%/-5%	+214%/-214%	+30%/-14%	+14%/-13%	+45%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 004771201-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-28 \pm 4$	$0.95^{+0.18}_{-0.14}$	$1408^{+103}_{-80}$	$4894^{+330}_{-292}$	$88^{+34}_{-28}$
Alt.	$-4 \pm 3$	$0.84^{+0.18}_{-0.13}$	$1410^{+109}_{-87}$	$3591^{+458}_{-685}$	$17^{+16}_{-13}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

$T_{obs}$  = Observed Planetary Temperature (Assuming A=0.3)

$A_{obs}$  = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

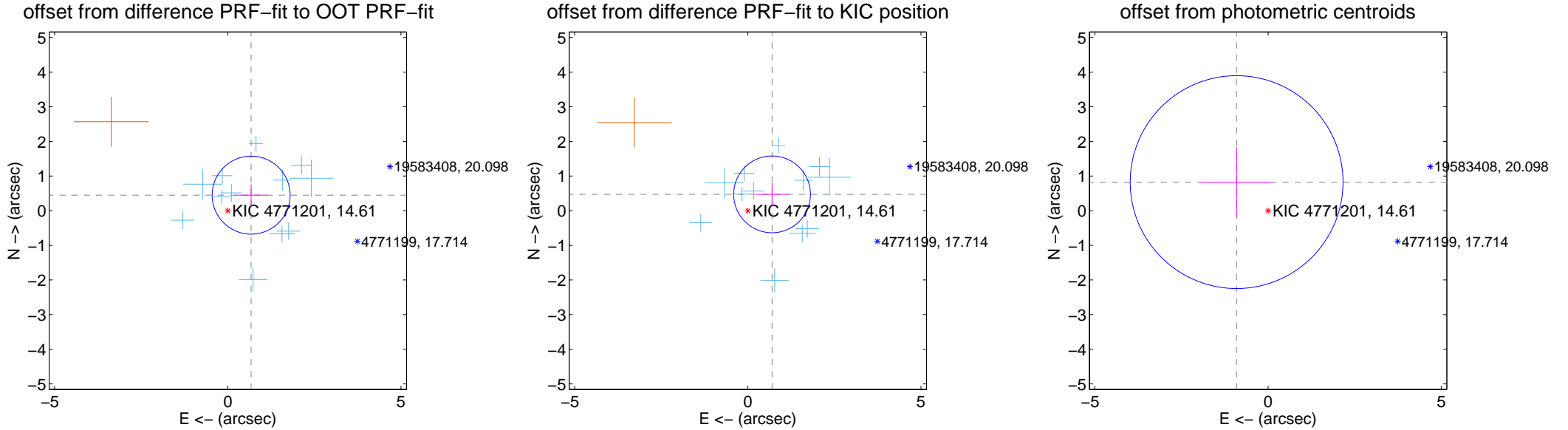
## DV Centroid Data

Supplemental centroid analysis for 004771201-01. Kepler magnitude: 14.61. Transit SNR 7.52

There are 12 quarters with good PRF difference image offsets

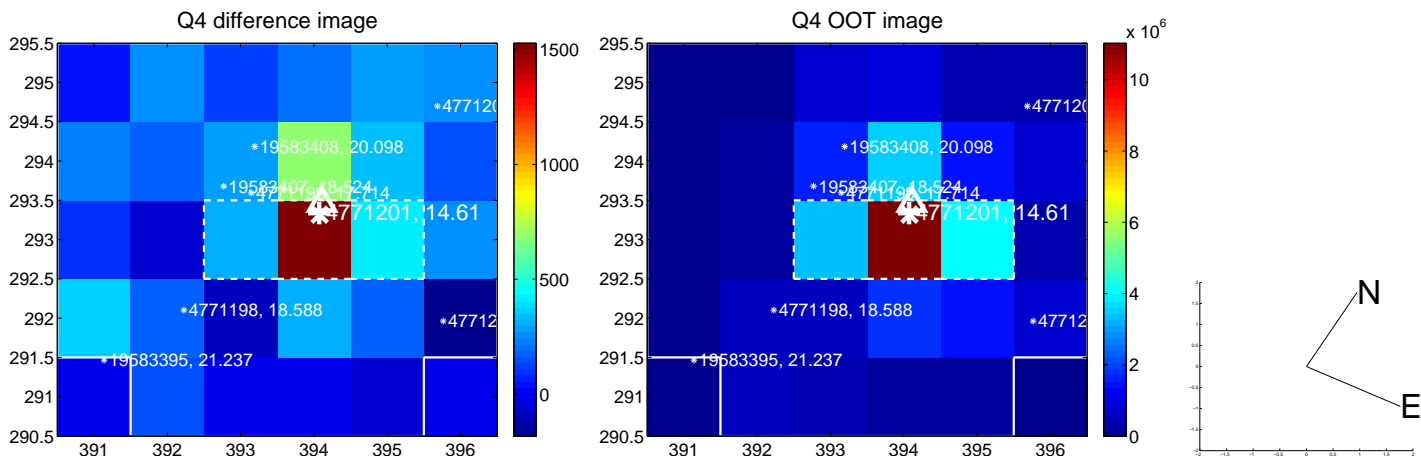
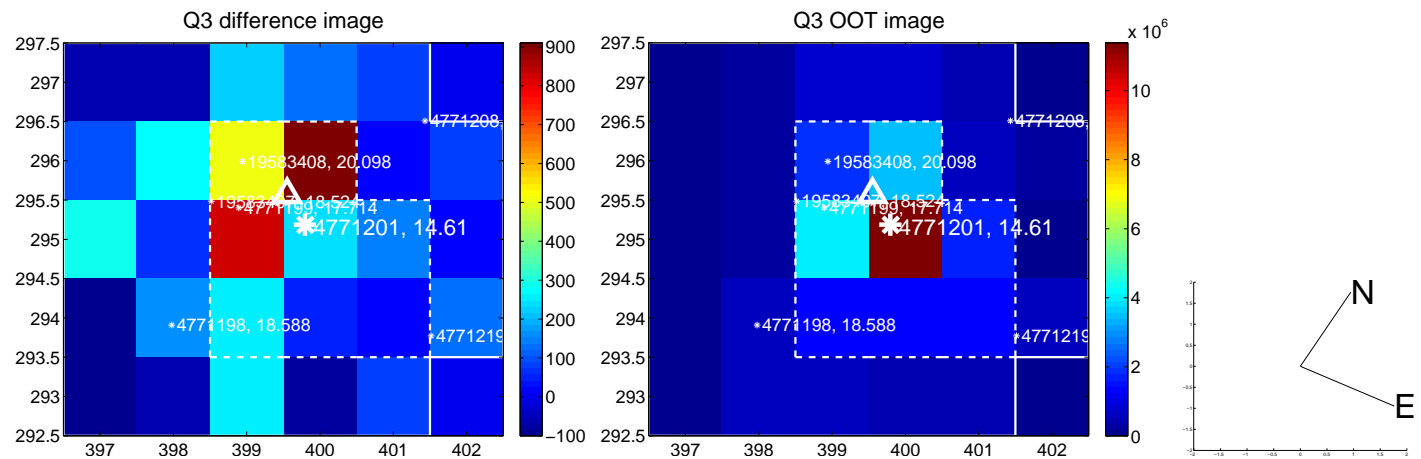
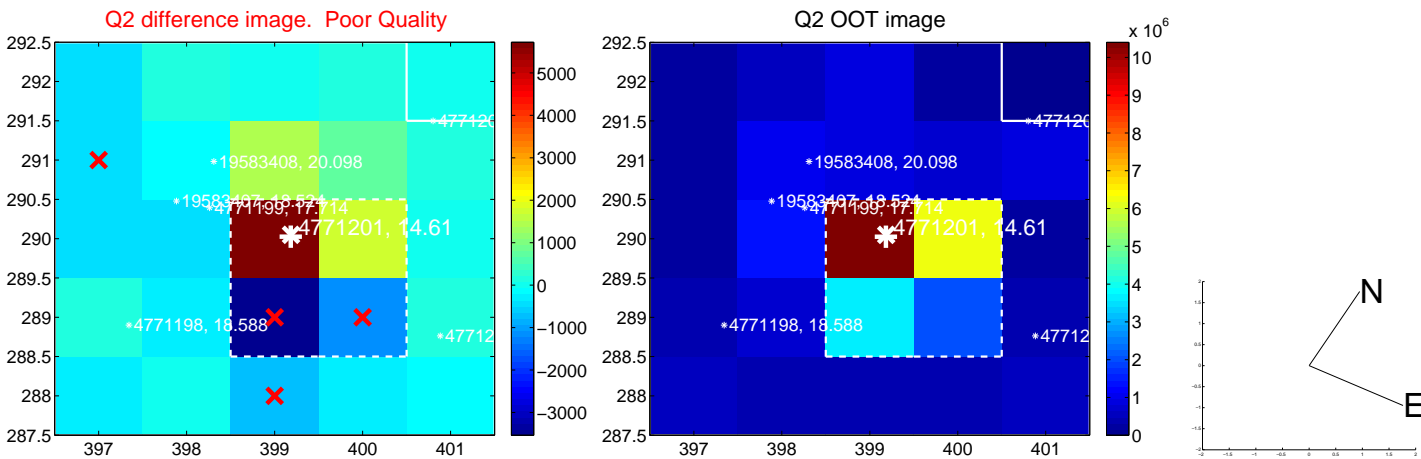
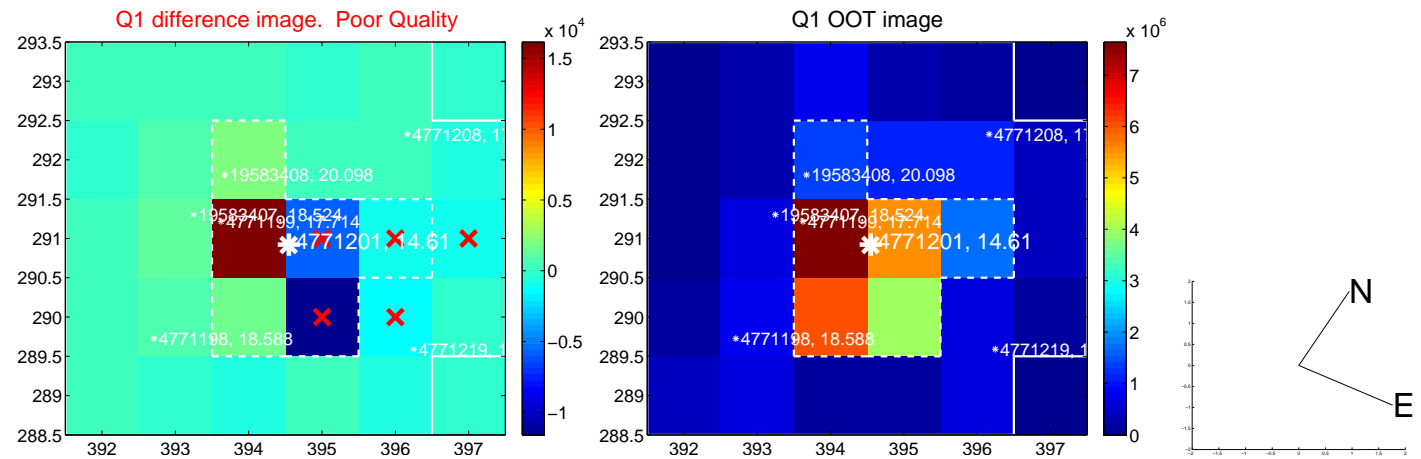
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.809 \pm 0.375$	2.16	$-0.674 \pm 0.475$	$0.449 \pm 0.306$
PRF-fit source offset from KIC position	$0.844 \pm 0.369$	2.28	$-0.700 \pm 0.468$	$0.471 \pm 0.323$
photometric centroid source offset	$1.23 \pm 1.02$	1.20	$0.91 \pm 1.04$	$0.83 \pm 1.00$

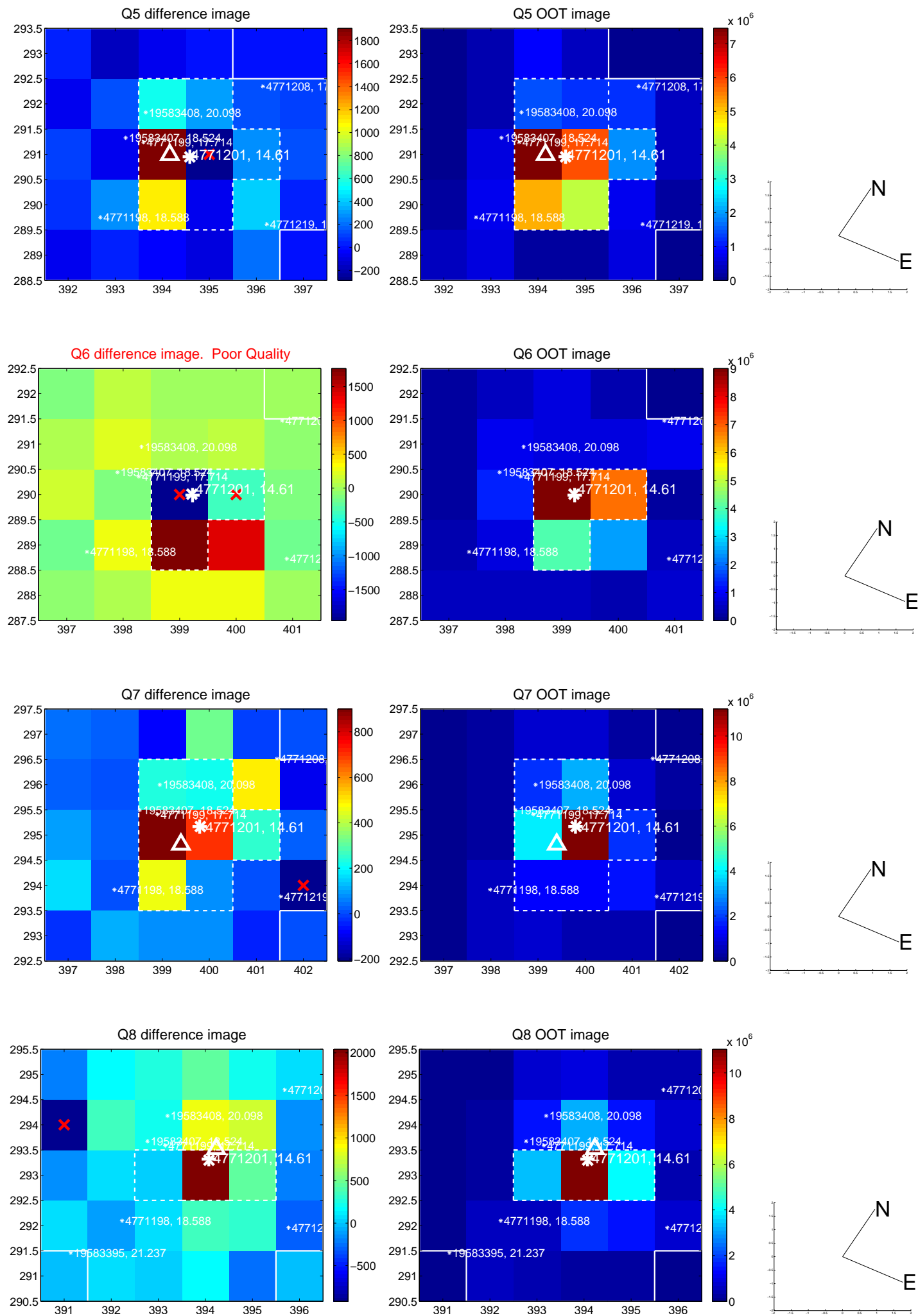


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

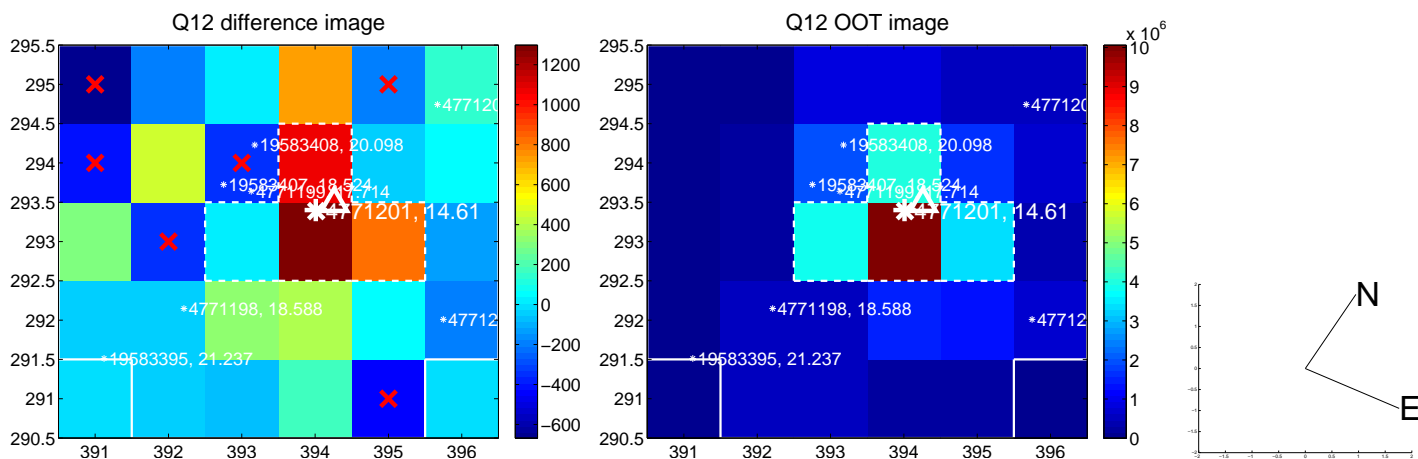
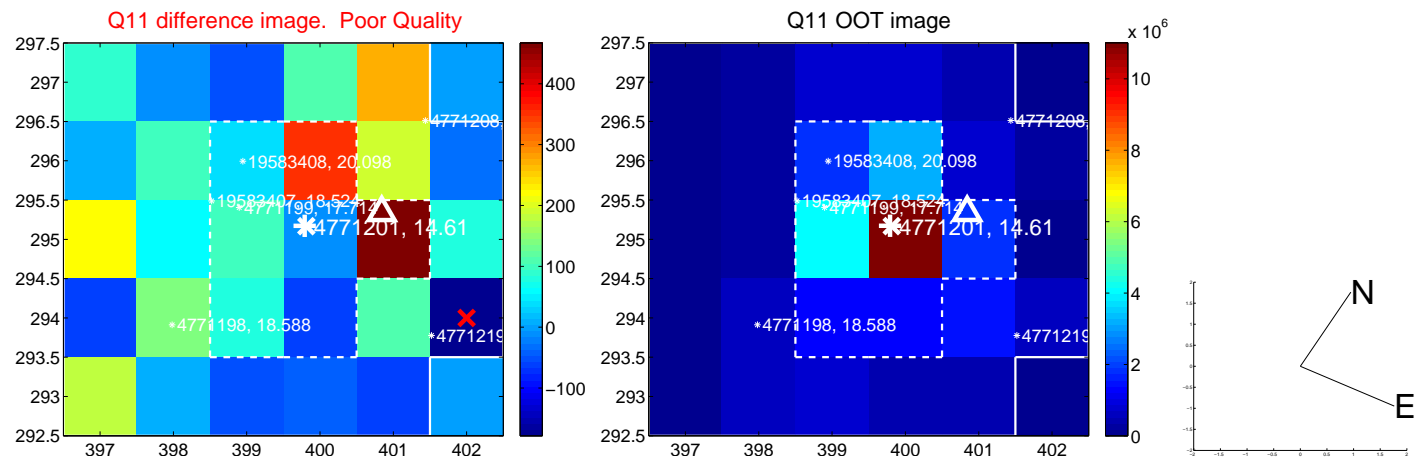
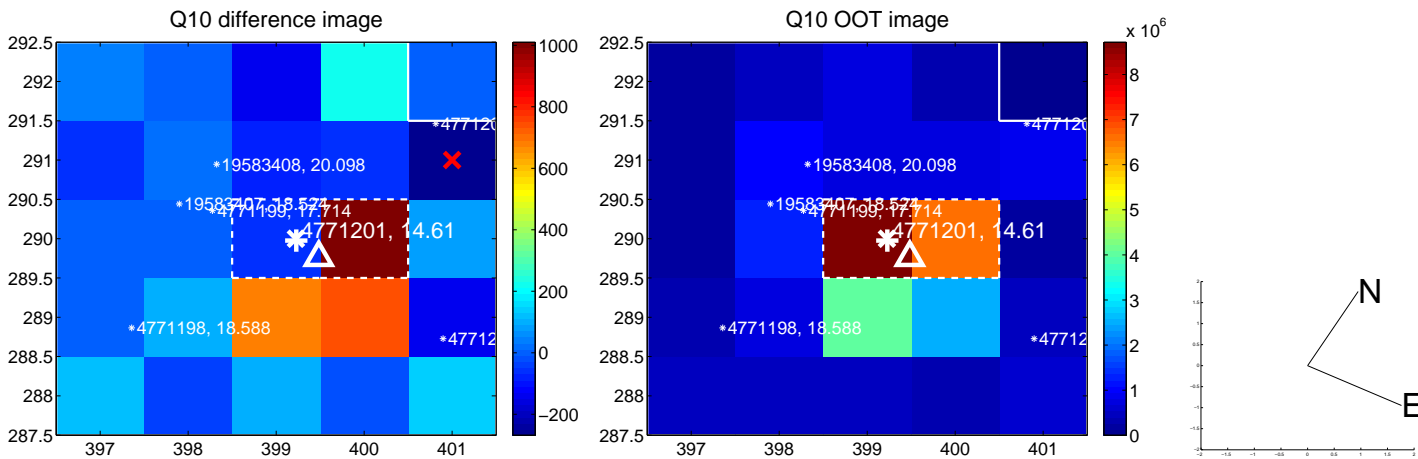
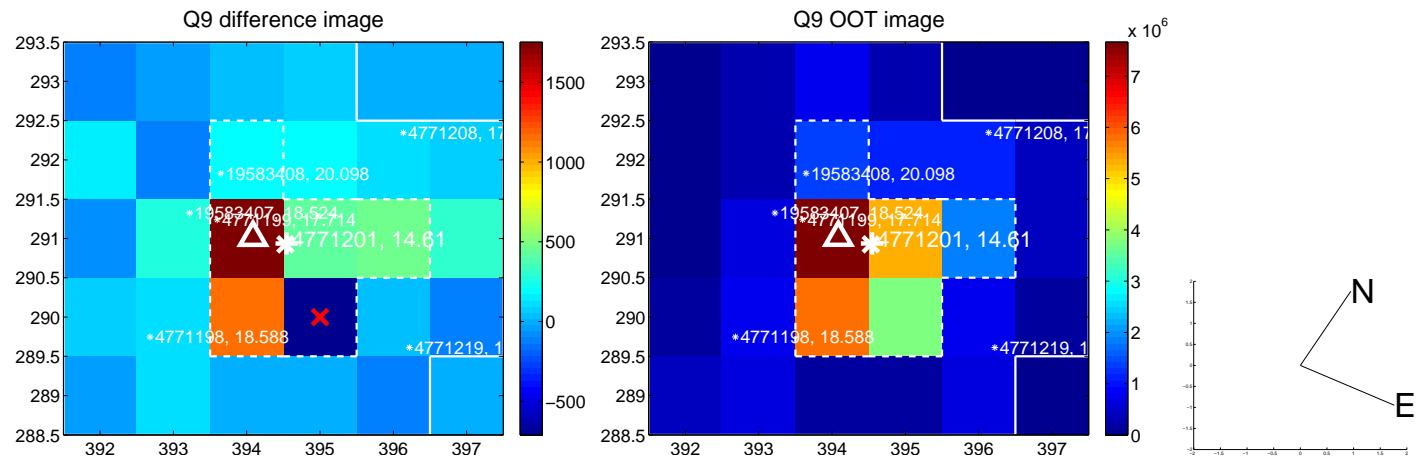


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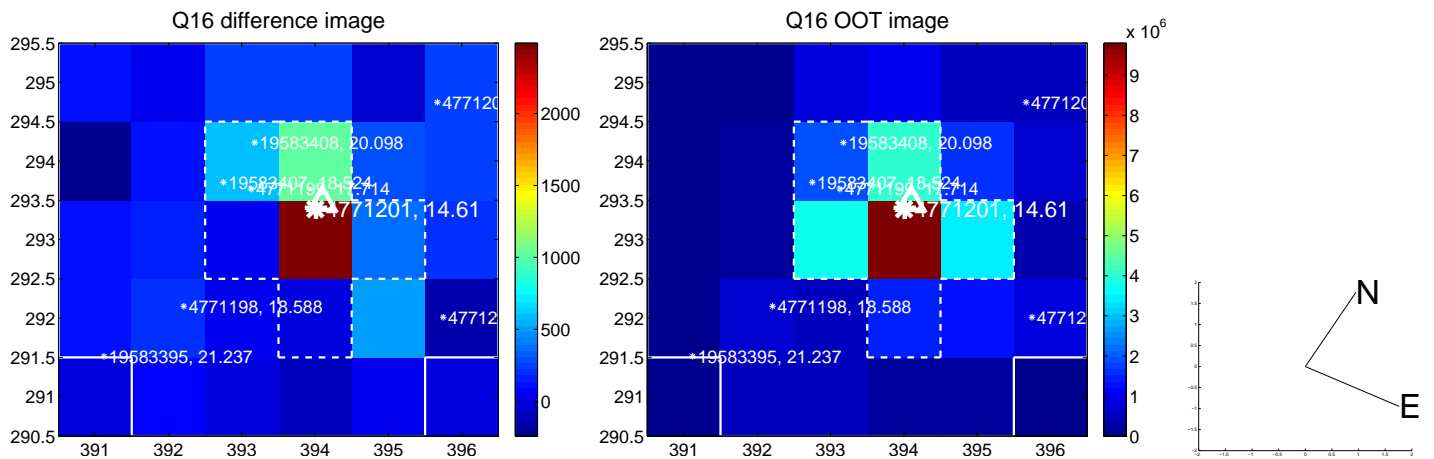
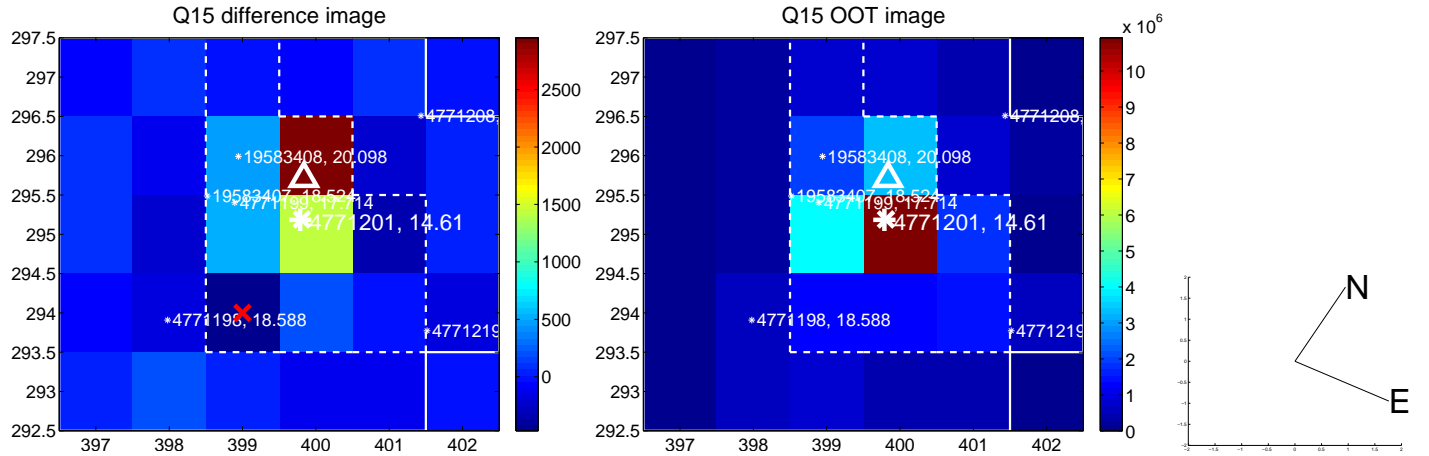
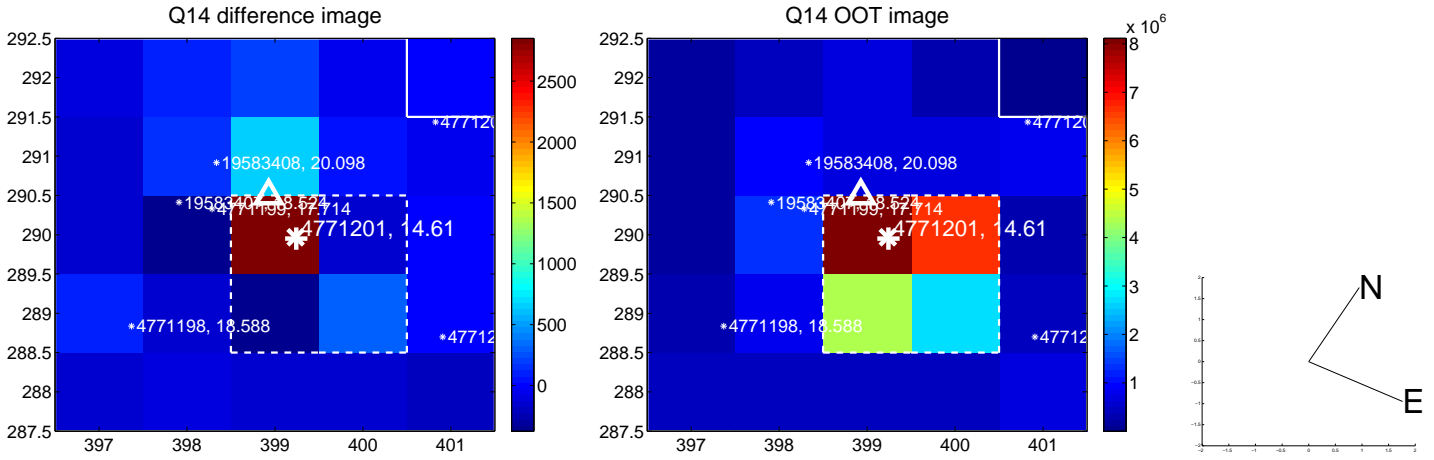
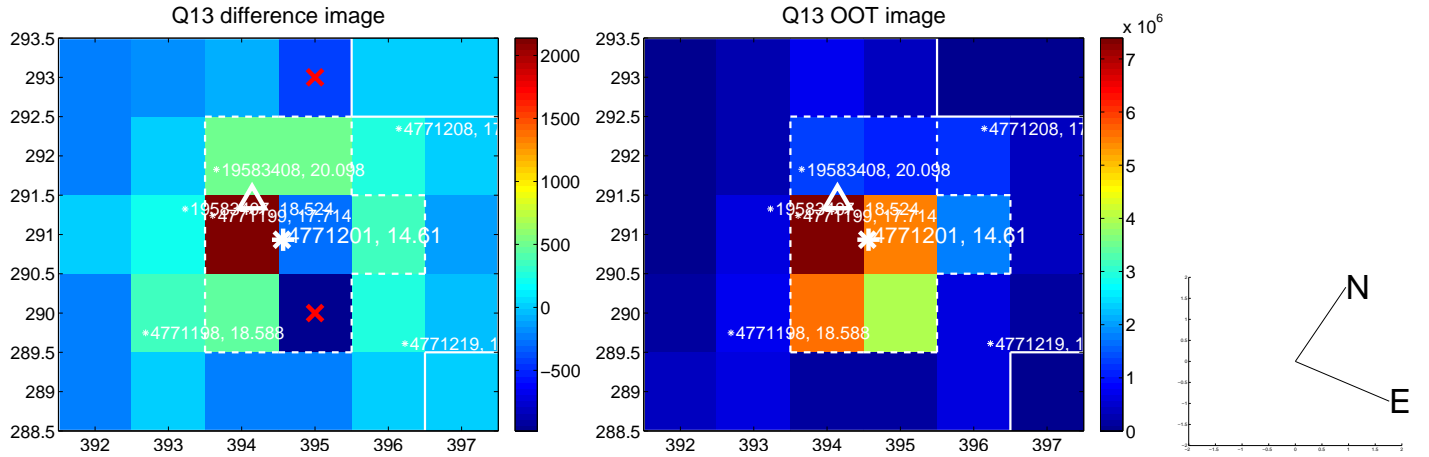




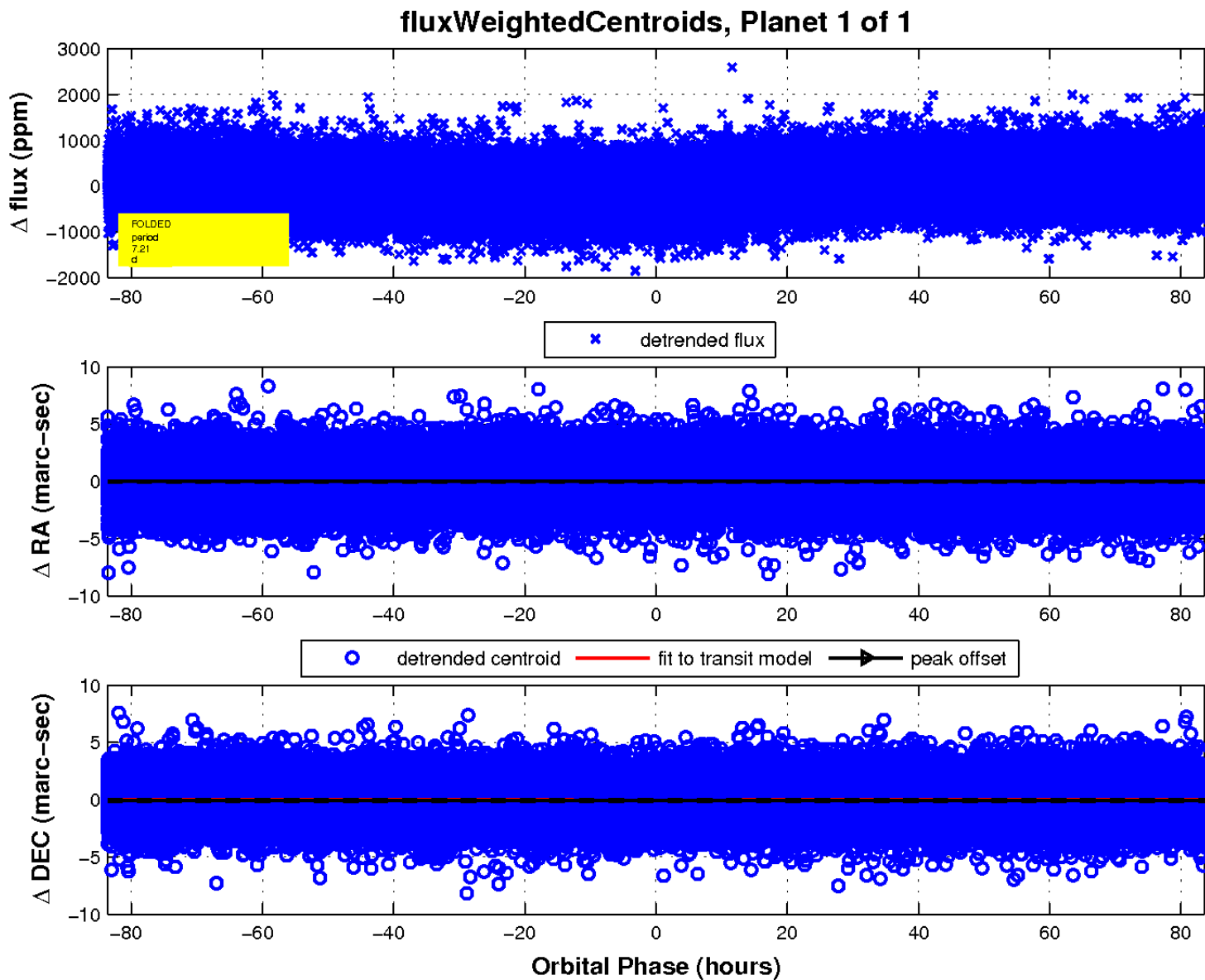
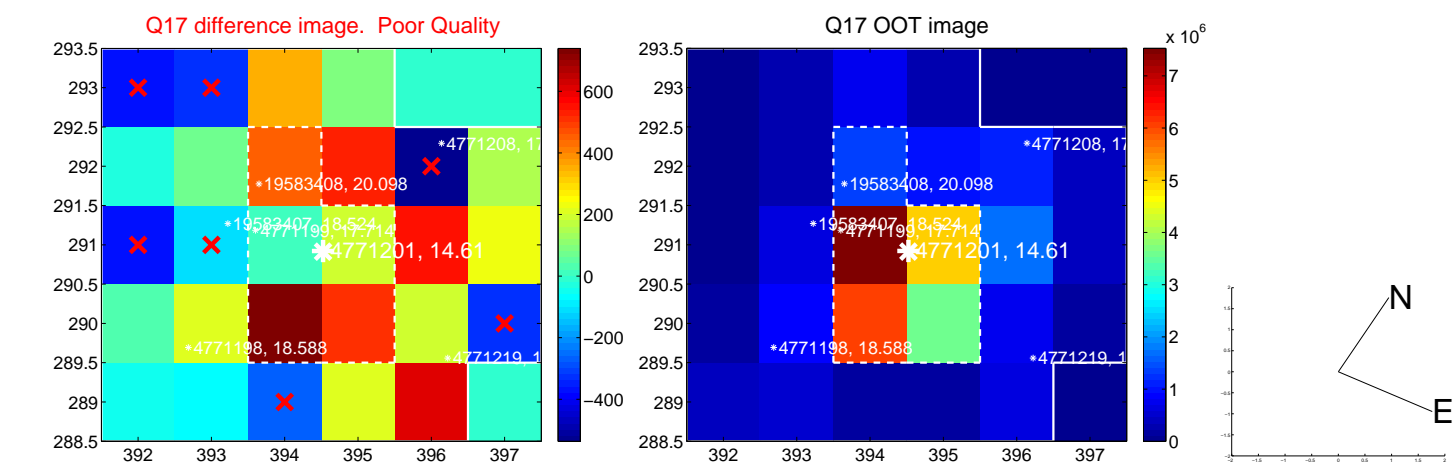
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UKIRT Image

